

In the CLAIMS Section

Please amend and add new claims 2-32 as follows:

- 1 1. (original) A system comprising a processor that is configured to iteratively select an optimal filter for filtering out clutter from ultrasound color flow imaging data wherein a determination of whether a filter is optimal is made by comparing an index to a threshold for that index, the index being computed using a mathematical formula including a mean frequency and a magnitude of a filtered signal.
- 1 2. (new) The system of claim 1 wherein the filtering is performed over each packet of flow data that corresponds to an acoustic point in a color flow region of interest.
- 1 3. (new) The system of claim 1 wherein a criterion for selecting the optimal filter is if a filtered signal is less than a threshold.
- 1 4. (new) The system of claim 1 wherein a criterion for selecting the optimal filter is if a magnitude of a portion of a filtered signal that is within a predetermined frequency range is less than a threshold.
- 1 5. (new) The system of claim 1 wherein a criterion for selecting the optimal filter is if a total energy of the filtered signal is less than an energy threshold.

1 6. (new) The system of claim 1 wherein the filtering is performed in real time while
2 imaging.

1 7. (new) The system of claim 1 further comprising a finite number of filters from which
2 the optimal filter is selected.

1 8. (new) The system of claim 7 in which the finite number of filters is two.

1 9. (new) A system comprising a processor that is configured to iteratively select an
2 optimal filter for filtering out clutter from ultrasound color flow imaging data wherein a
3 criterion for selecting the optimal filter is if a mean frequency of a filtered signal data is
4 less than a clutter frequency threshold wherein if the mean frequency is less than the
5 clutter frequency threshold is determined by whether an absolute value of an imaginary
6 part of a first order autocorrelation of a color flow signal is less than a constant times a
7 real part of the autocorrelation, where the constant is determined by the clutter
8 frequency threshold.

1 10. (new) The system of claim 9 wherein a criterion for selecting the optimal filter
2 further comprises if a filtered signal is less than a threshold.

1 11. (new) The system of claim 9 wherein a criterion for selecting the optimal filter
2 further comprises if a magnitude of a portion of a filtered signal that is within a
3 predetermined frequency range is less than a threshold.

1 12. (new) The system of claim 9 wherein a criterion for selecting the optimal filter
2 further comprises if a total energy of the filtered signal is less than an energy threshold.

1 13. (new) The system of claim 9 wherein the filtering is performed over each packet of
2 flow data that corresponds to an acoustic point in a color flow region of interest.

1 14. (new) The system of claim 9 wherein the filtering is performed in real time while
2 imaging.

1 15. (new) The system of claim 9 further comprising a finite number of filters from
2 which the optimal filter is selected.

1 16. (new) The system of claim 15 in which the finite number of filters is two.

1 17. (new) A method comprising:
2 iteratively selecting an optimal filter for filtering wherein the iteratively selecting
3 comprises computing an index using a mathematical formula including a mean
4 frequency and a magnitude of a filtered signal and determining whether a filter is
5 optimal by comparing the index to a threshold; and
6 filtering out clutter from ultrasound color flow data.

1 18. (new) The method of claim 17 wherein the filtering comprises filtering an individual
2 packet of the ultrasound color flow data that corresponds to an acoustic point in a region
3 of interest.

1 19. (new) The method of claim 17 wherein the filtering is performed in real time while
2 collecting the ultrasound color flow data.

1 20. (new) The method of claim 17 wherein the iteratively selecting further comprises
2 determining if a filtered signal is less than a threshold.

1 21. (new) The method of claim 17 wherein the iteratively selecting further comprises
2 determining if a magnitude of a filtered signal is less than a than a frequency threshold.

1 22. (new) The method of claim 17 wherein the iteratively selecting further comprises
2 selecting a filter from a finite number of filters.

1 23. (new) The method of claim 17 wherein the iteratively selecting further comprises
2 selecting one of two filters.

1 24. (new) The method of claim 17 wherein the iteratively selecting further comprises
2 determining if a magnitude of a color flow signal in a preselected frequency range is less
3 than a color flow signal threshold wherein a phase shift is less than a phase shift
4 threshold.

1 25. (new) A method comprising:
2 iteratively selecting an optimal filter for filtering wherein the iteratively selecting
3 comprises determining if a magnitude of a color flow signal in a preselected frequency
4 range is less than a color flow signal threshold, wherein the determining includes
5 determining whether an absolute value of an imaginary part of a first order
6 autocorrelation of the color flow signal is less than a constant times a real part of the
7 autocorrelation, where the constant is determined by a frequency threshold, and
8 filtering out clutter from ultrasound color flow data.

1 26. (new) The method of claim 25 wherein the filtering comprises filtering an individual
2 packet of the ultrasound color flow data that corresponds to an acoustic point in a region
3 of interest.

1 27. (new) The method of claim 25 wherein the filtering is performed in real time while
2 collecting the ultrasound color flow data.

1 28. (new) The method of claim 25 wherein the iteratively selecting further comprises
2 determining if a filtered signal is less than a threshold.

1 29. (new) The method of claim 25 wherein the iteratively selecting further comprises
2 determining if a magnitude of frequency of a filtered signal is less than a frequency
3 threshold.

- 1 30. (new) The method of claim 25 wherein determining further comprises determining
- 2 whether a phase shift is less than a phase shift threshold.

- 1 31. (new) The method of claim 25 wherein the iteratively selecting further comprises
- 2 selecting a filter from a finite number of filters.

- 1 32. (new) The method of claim 25 wherein the iteratively selecting further
- 2 comprises selecting one of two filters.